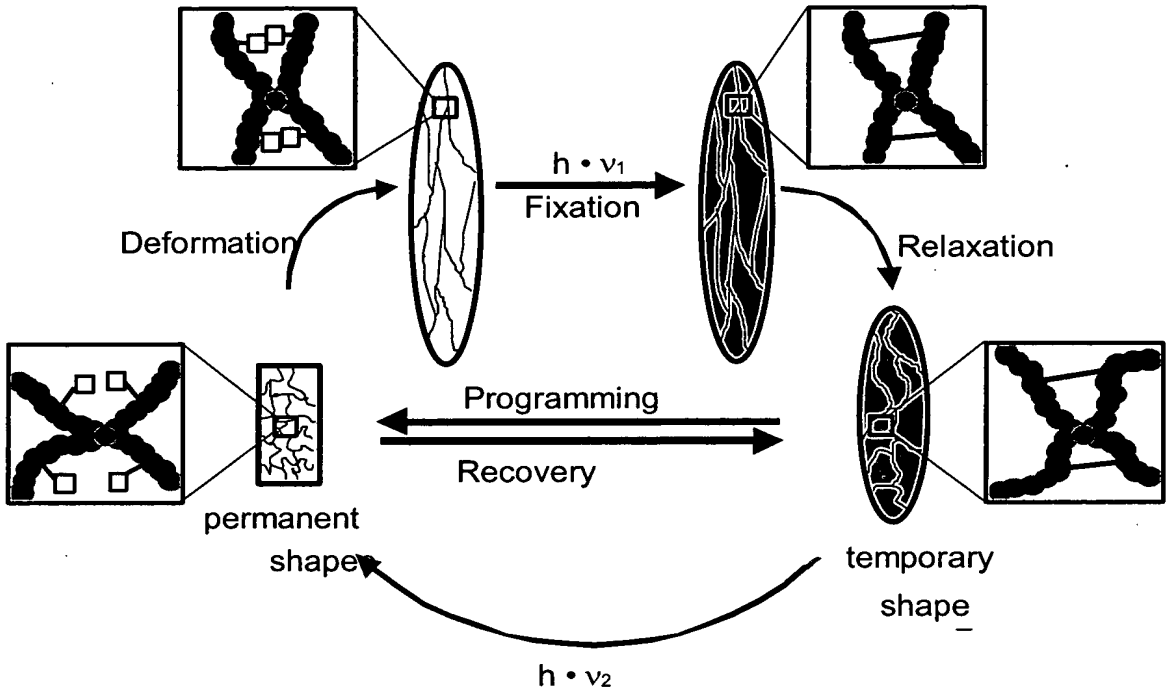


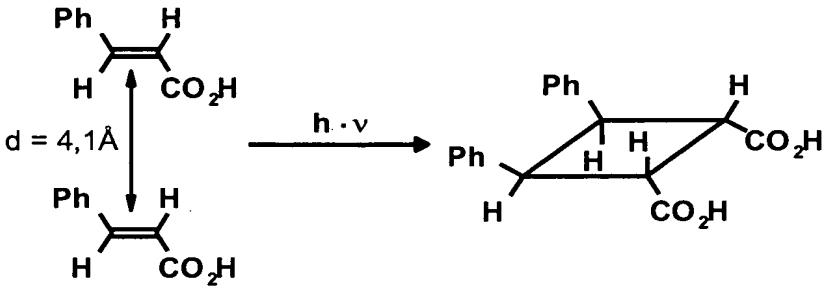
Functional principle of a photosensitive network on the macroscopic and molecular level

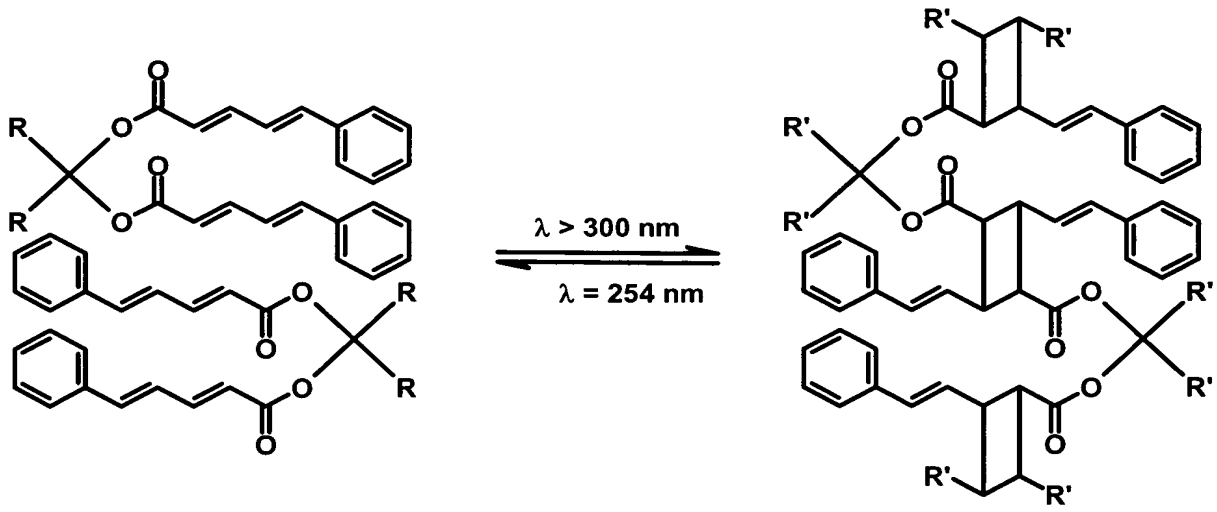
□ Photoreactive Group

● Covalent crosslinking point

●● Polymer chain

FIGURE 1





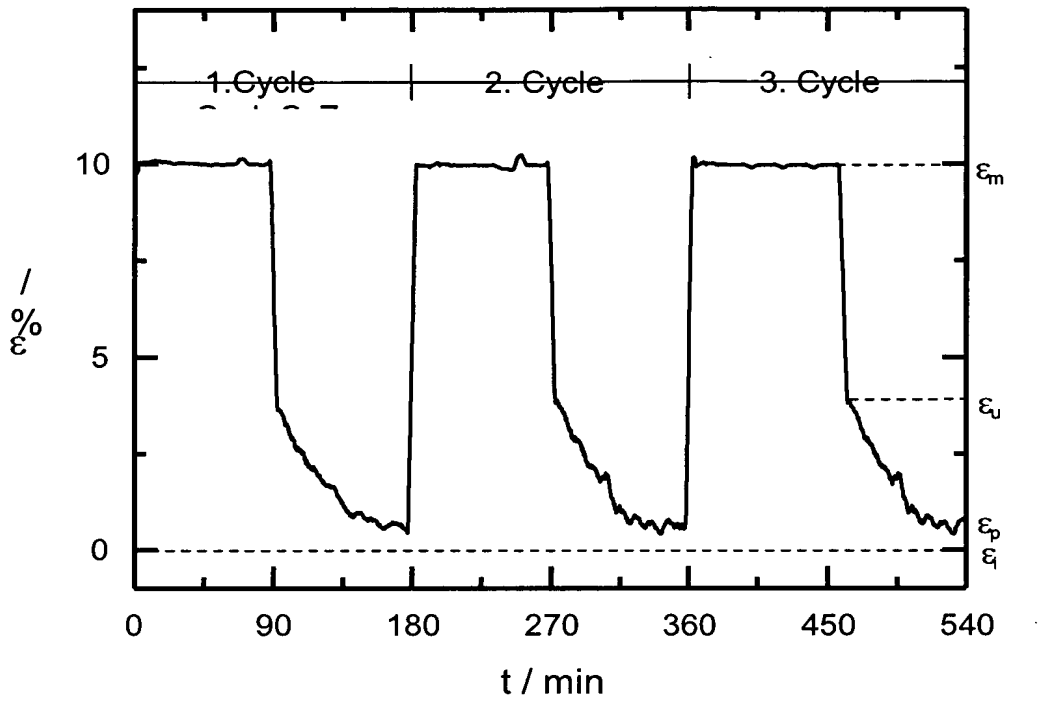
Above: photoreaction of cinnamic acid

Below: Reversible Photo crosslinking of cinnamylacylate with UV light

R: Cinnamylacylate ((C_6H_5)-$(CH)_4$-CO_2-); R': Polymer network;

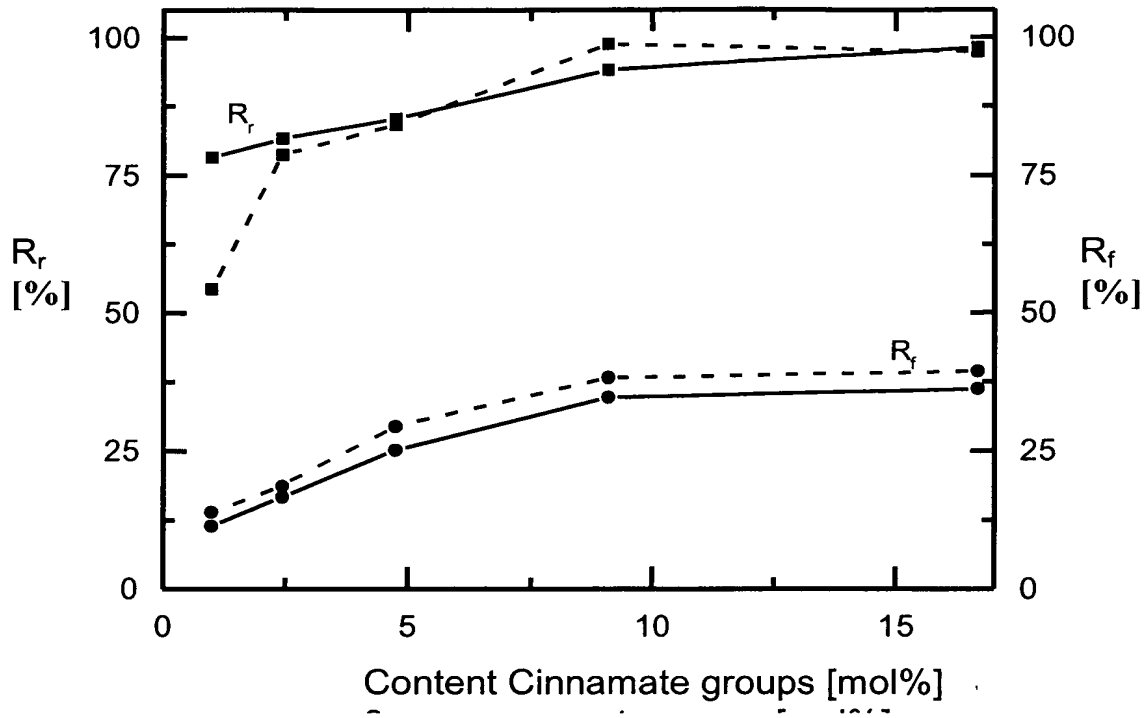
 : *b*-PEG (star shaped, 4 branches).

FIGURE 2



Elongation ε of a photosensitive network (Sample 7A) during 3 repetitions of a photomechanical cycle (stress regulated)

FIGURE 3



Shape memory properties of photosensitive SMP samples 2A-2E having increasing contents of photoreactive component. Straight lines do show the results of the stress regulated photo mechanical cycles (-□- R_r and - • - R_f), while dashed lines show the results of the length regulated cycles (--□-- R_r and --•-- R_f). For the calculation the 5th cycle was used. Elongation was 10%.

FIGURE 4